



AMENDMENTS TO THE CLAIMS

1. (Currently amended) A system for load balancing, the system comprising:
an L2TP Access Concentrator (LAC)~~LAC~~, the LAC including a contact L2TP Network Server (LNS)~~LNS~~ address, the contact LNS address specifying the address of a contact LNS;
a contact LNS communicatively coupled to the LAC;
a plurality of load balancing LNSs communicatively coupled to the contact LNS and to the LAC; and
wherein the LAC sends a message to the contact LNS, the message informing the contact LNS of the its-availability of the LAC for participating in load balancing, and the contact LNS sends a response message containing an Internet Protocol (IP)~~IP~~ address of a selected one of the plurality of load balancing LNSs to which the LAC should establish a session.
2. (Original) The system of claim 1 wherein the contact LNS is included within a virtual LNS.
3. (Currently amended) The system of claim 1 wherein the message informing the contact LNS of the availability of the LAC for participating in load balancing is an Incoming Call Request (ICRQ)~~ICRQ~~ message.
4. (Currently amended) The system of claim 1 wherein the response message is an Incoming Call Response (ICRP)~~ICRP~~ message.

5. (Currently amended) The system of claim 1 further including a customer premise equipment (CPE)-~~CPE~~ coupled to the LAC.

6. (Currently amended) A method of load balancing, the method comprising:
obtaining the address of a contact L2TP Network Server (LNS)-~~LNS~~;
sending, to the contact LNS from an L2TP Access Concentrator (LAC), a message that indicates the LAC is available for participating in load balancing;
receiving from the contact LNS the address of the next available LNS;
establishing a connection with the next available LNS; and
receiving data and forwarding the data to the next available LNS.

7. (Currently amended) The method of claim 6, ~~7~~-wherein the message that indicates the LAC is available for participating in load balancing, is ~~step of obtaining an address includes sending an~~ Incoming Call Request (ICRQ)-~~ICRQ~~ message.

8. (Currently amended) The method of claim 7 wherein the address of the next available LNS is included in an Incoming Call Response (ICRP)-~~ICRP~~ message.

9. (Original) The method of claim 7 wherein the contact LNS is included in virtual LNS.

10. (Currently amended) A method for load balancing between a contact L2TP Network Server (LNS)~~LNS~~, an L2TP Access Concentrator (LAC)~~LAC~~, and a next LNS, the method comprising:

sending, to the contact LNS from the LAC, a message that indicates the LAC is available for participating in load balancing;

determining whether the contact LNS can provide a session;

sending a message to the LAC indicating whether the contact LNS can provide the session;

if the contact LNS can provide the session, then establishing a connection between the contact LNS and the LAC; and

if the contact LNS cannot provide the session, then (i) obtaining the next LNS address and providing the next LNS address to the LAC, [[:]] and (ii) establishing a connection between the next LNS and the LAC using the next LNS address.

11. (Original) The method of claim 10 wherein the contact LNS is included in a virtual LNS.

12. (Original) The method of claim 11 including the further step of determining the identity of the contact LNS within the virtual LNS.

13. (Currently amended) A system for load balancing, the system comprising:

a Customer Premise Equipment (CPE)~~CPE~~;

an L2TP Access Concentrator (LAC)~~LAC~~, the LAC coupled to the CPE;

a first network, the first network coupled to the LAC;
a second network coupled to the first network;
a contact L2TP Network Server (LNS)~~LNS~~ coupled to the first network;
a next LNS coupled to the second network, the next LNS having an Internet Protocol (IP)
~~IP~~ address; and

wherein the LAC sends a message to the contact LNS via the first network, the message informing the LNS of the its-availability of the LAC for participating in load balancing, and the contact LNS sends a response message to the LAC, the response message containing the IP address of the next LNS, the LAC establishing a connection with the next LNS via the second network.

14. (Original) The system of claim 13 wherein the contact LNS includes a table and the address of the next LNS is stored in the table.

15. (Original) The system of claim 13 wherein the contact LNS is included in a virtual LNS.

16. (Currently amended) A system for load balancing, the system comprising:
means for obtaining the address of a contact L2TP Network Server (LNS)~~LNS~~;
means for sending, to the contact LNS from an L2TP Access Concentrator (LAC), a message that indicates the LAC is available for participating in load balancing;
means for receiving from the contact LNS the address of the next available LNS;
means for establishing a connection with the next available LNS; and

means for receiving data and forwarding the data to the next available LNS.

17. (Currently amended) A computer readable medium having stored therein instructions for causing a processing unit to execute the following method:

obtaining the address of a contact L2TP Network Server (LNS)~~LNS~~;

sending, to the contact LNS from an L2TP Access Concentrator (LAC), a message that indicates the LAC is available for participating in load balancing;

receiving from the contact LNS the address of the next available LNS;

establishing a connection with the next available LNS; and

receiving data and forwarding the data to the next available LNS.

18. (Currently amended) A computer program for load balancing, the computer program comprising:

first code for obtaining the address of a contact L2TP Network Server (LNS)~~LNS~~;

second code for receiving from the contact LNS the address of the next available LNS;

third code for establishing a connection with the next available LNS; ~~and~~

fourth code for receiving data and forwarding the data to the next available LNS; and

fifth code for sending, to the contact LNS from an L2TP Access Concentrator (LAC), a message that indicates the LAC is available for participating in load balancing.

19. (New) The method of claim 6, wherein the message that indicates the LAC is available for participating in load balancing comprises a Start-Control-Connection-Request (SCCRQ) message.

20. (New) The method of claim 7, wherein the ICRQ message comprises an attribute-value pair that indicates the LAC is capable of performing load balancing.